WHAT IS CLAIMED IS:

1. A resin-encapsulated semiconductor apparatus comprising a semiconductor device having a ferroelectric film and a surface-protective film, and a encapsulant member comprising a resin;

said surface-protective film being formed of a polyimide.

2. The resin-encapsulated semiconductor apparatus according to claim 1, wherein said polyimide has a glass transition temperature of from 240℃ to 400℃ and a Young's modulus of from 2,600 MPa to 6 GPa.

3. The resin-encapsulated semiconductor apparatus according to claim 1, wherein said ferroelectric film is a capacity insulation film of a capacitor.

4. The resin-encapsulated semiconductor apparatus according to claim 1, wherein said polyimide is obtained by heating a polyimide precursor composition at a temperature of 230℃ or above and 300℃ or below.

5. The resin-encapsulated semiconductor apparatus according to claim 1, wherein said polyimide;

is obtained by heating a polyimide precursor composition at a temperature of higher than 300℃ and 350℃ or below for a time shorter than 4 minutes; and

has a Young's modulus of 3,500 MPa or above and a glass transition

temperature of 260℃ or above.

6. A process for fabricating a resin-encapsulated semiconductor apparatus, comprising the steps of;

forming a film of a polyimide precursor composition on the surface of a semiconductor device having a ferroelectric film;

heat-curing the polyimide precursor composition film to form a surface-protective film formed of a polyimide; and

encapsulating, with an encapsulant resin, the semiconductor device on which the surface-protective film has been formed.

7. The process for fabricating a resin-encapsulated semiconductor apparatus according to claim 6, wherein the polyimide has a glass transition temperature of from 240℃ to 400℃ and a Young's modulus of from 2,600 MPa to 6 GPa.

8. The process for fabricating a resin-encapsulated semiconductor apparatus according to claim 6, wherein the step of heat-curing comprises a step of curing said polyimide precursor composition film by heating at a temperature of 230℃ or above and 300℃ or below.

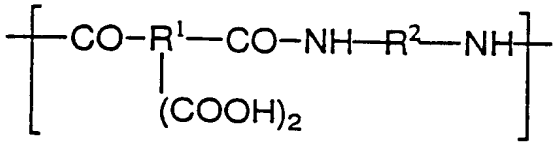
9. The process for fabricating a resin-encapsulated semiconductor apparatus according to claim 6, wherein;

the step of heat-curing comprises a step of heating at a temperature of 300℃ or above and 350℃ or below; and

said polyimide has a Young's modulus of 3,500 MPa or above and a

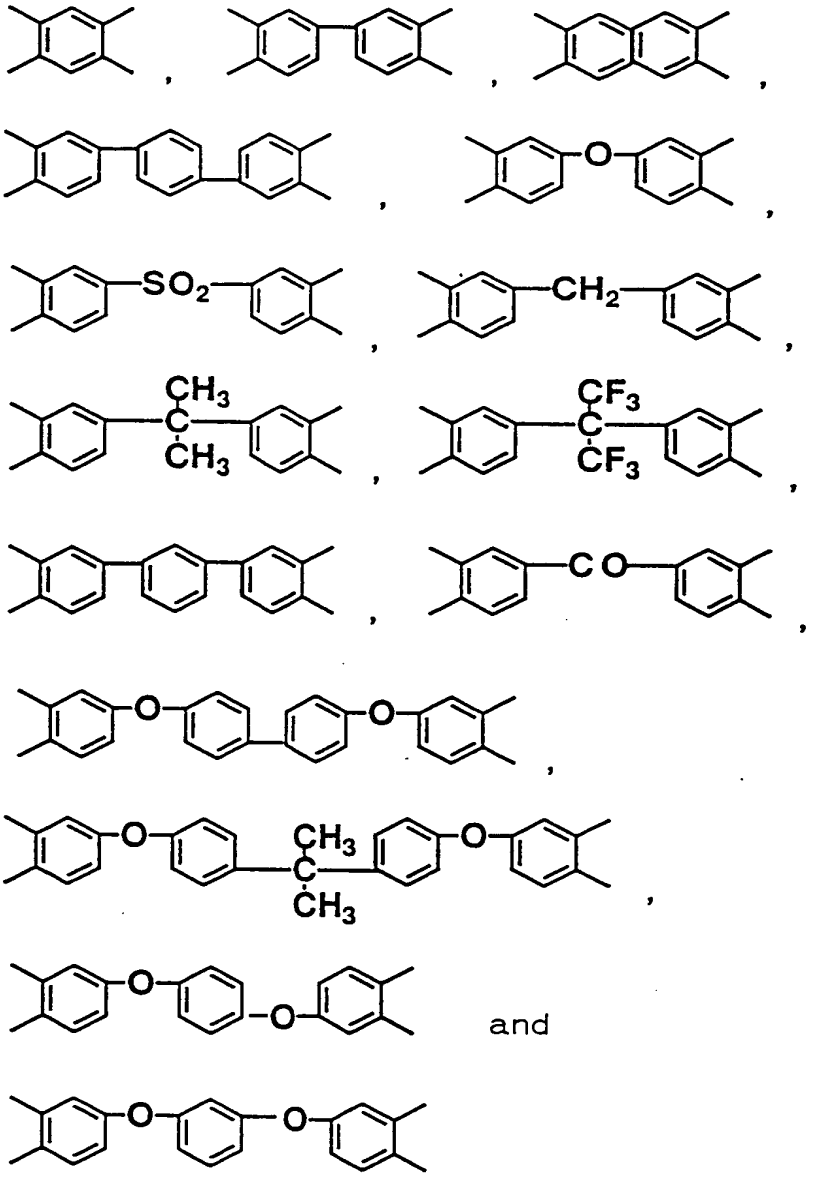
glass transition temperature of 260℃ or above.

10. The process for fabricating a resin-encapsulated semiconductor apparatus according to claim 6, wherein said polyimide precursor composition contains as a polyimide precursor a polyamic acid comprised of a repeating unit represented by the following general formula (I):



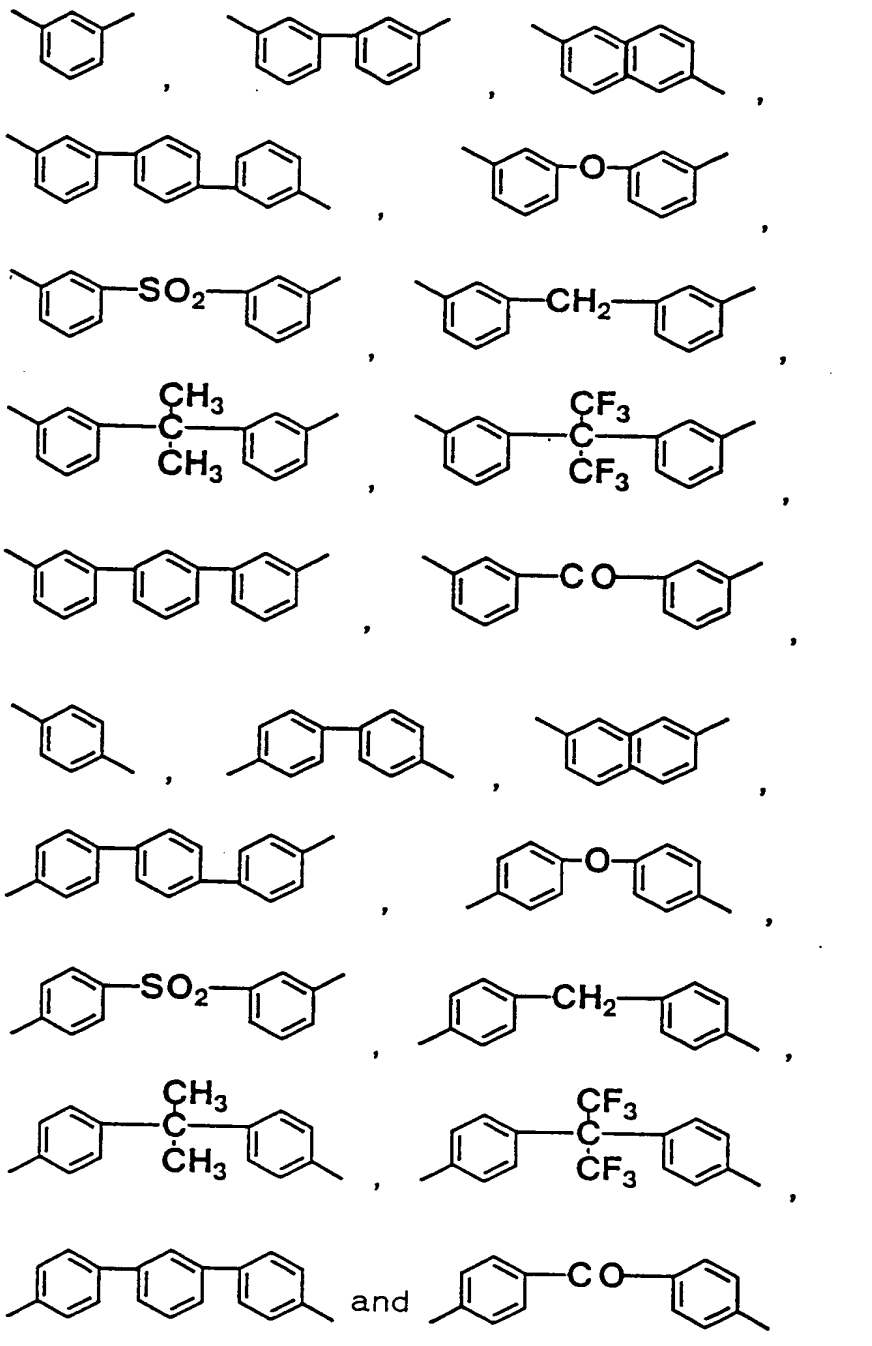
... (I)

wherein R^1 is at least one of tetravalent aromatic organic groups shown in the following chemical formula group (II), and R^2 is at least one of divalent aromatic organic groups shown in the following chemical formula groups (III) and (IV):

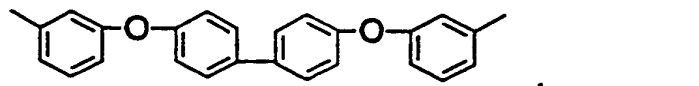


and

··· (II)



… (III)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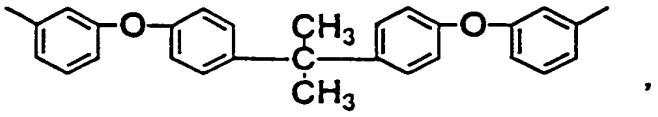
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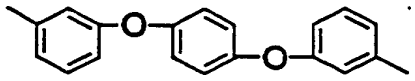
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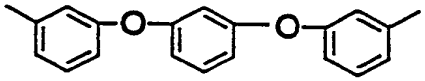
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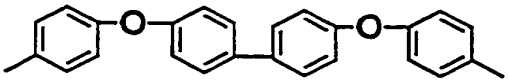
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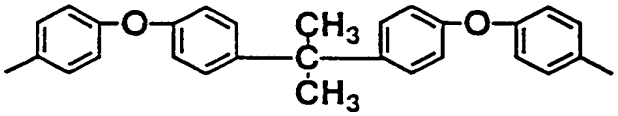
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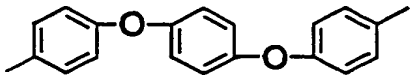
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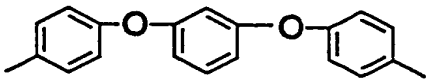
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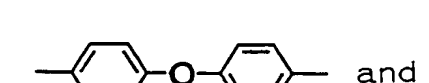
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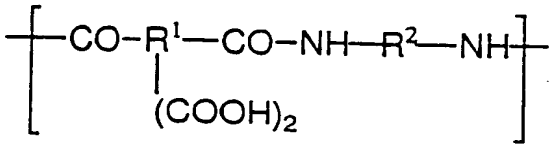
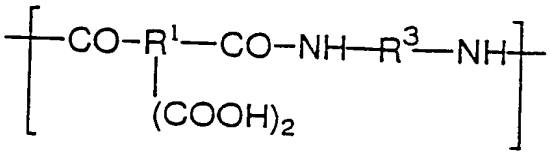
and

... (IV)

11. The process for fabricating a resin-encapsulated semiconductor apparatus according to claim 6, wherein said polyimide precursor composition contains as a polyimide precursor a polyamide acid comprised of a first repeating unit represented by the following general formula (I) and a second repeating unit represented by the following general formula (V): the proportion of the number of said second repeating unit to the total number of said first repeating unit and second repeating unit being 10% or less;

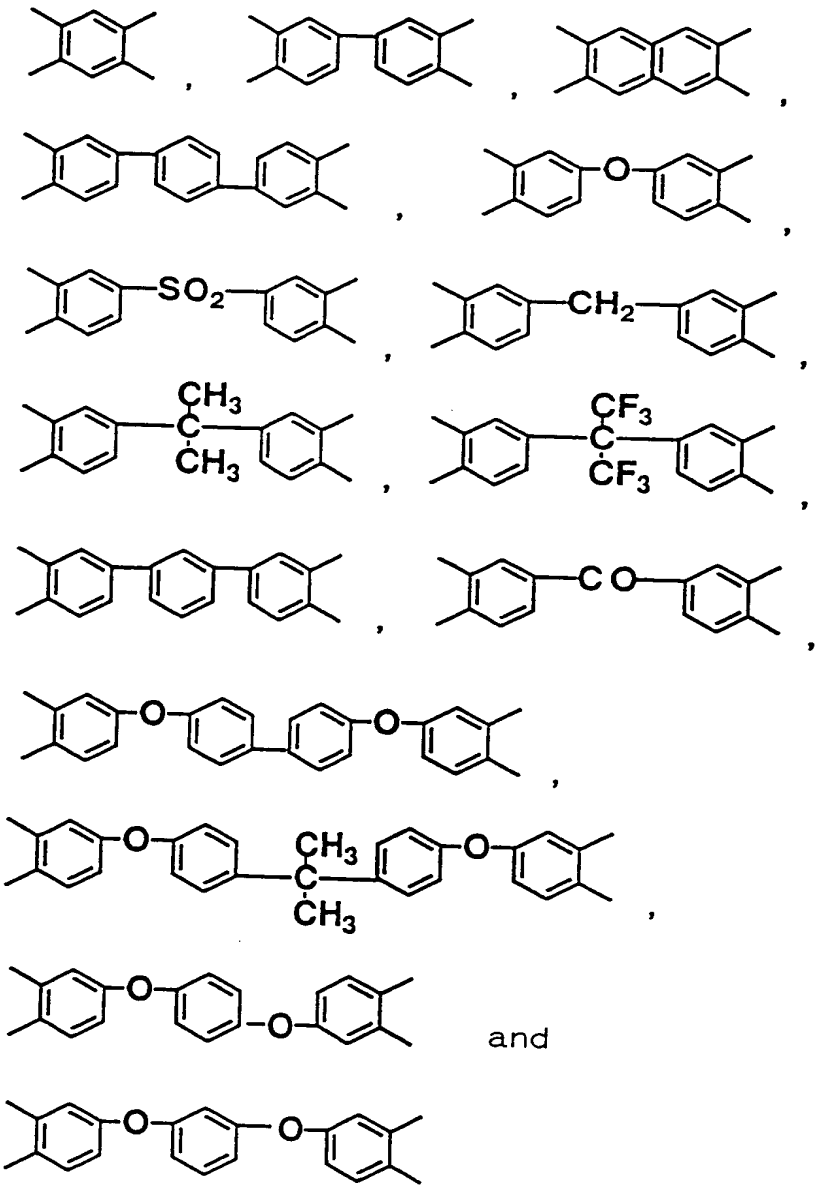


... (I)



... (V)

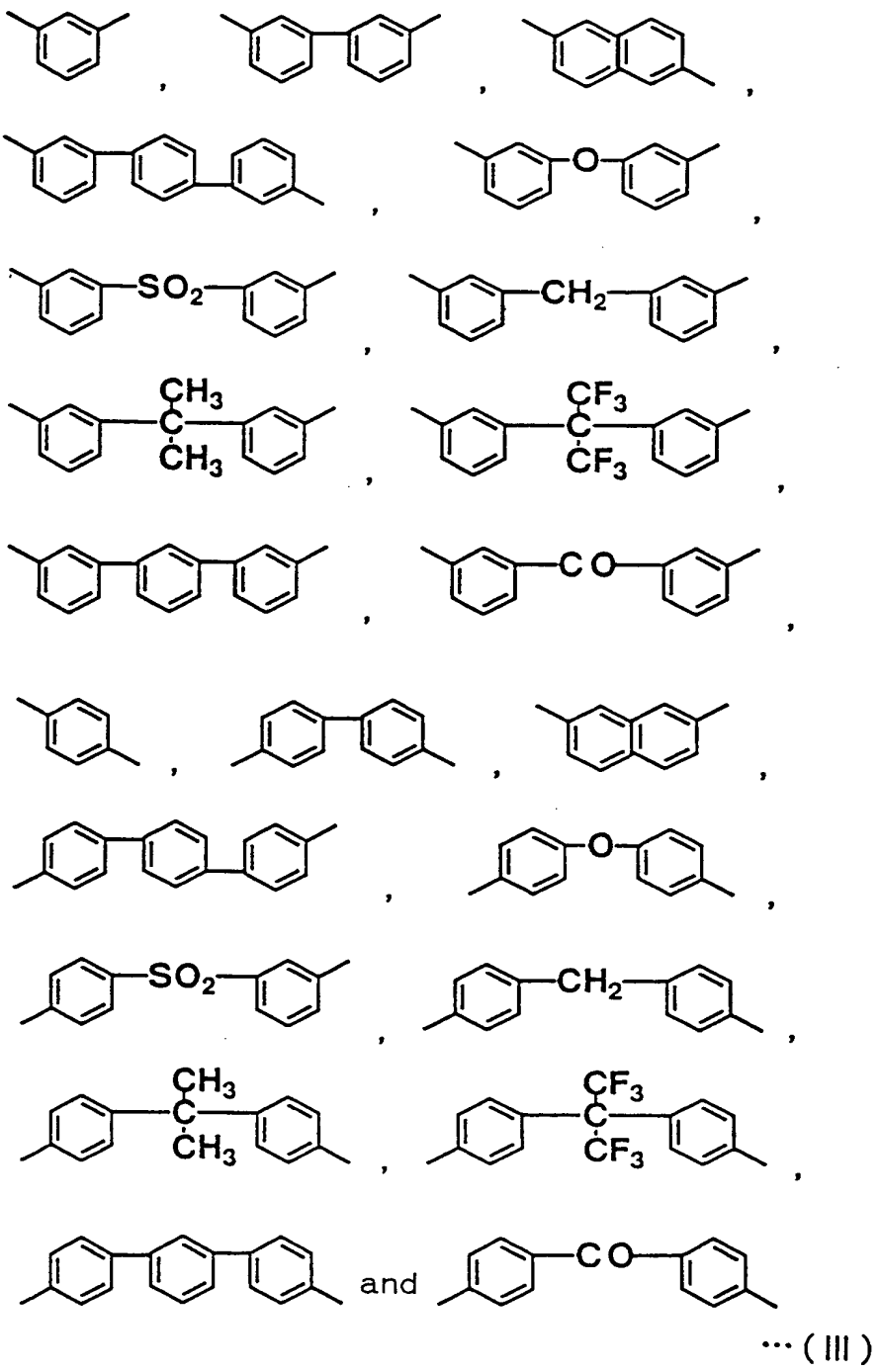
wherein R^1 is at least one of tetravalent aromatic organic groups shown in the following chemical formula group (II):

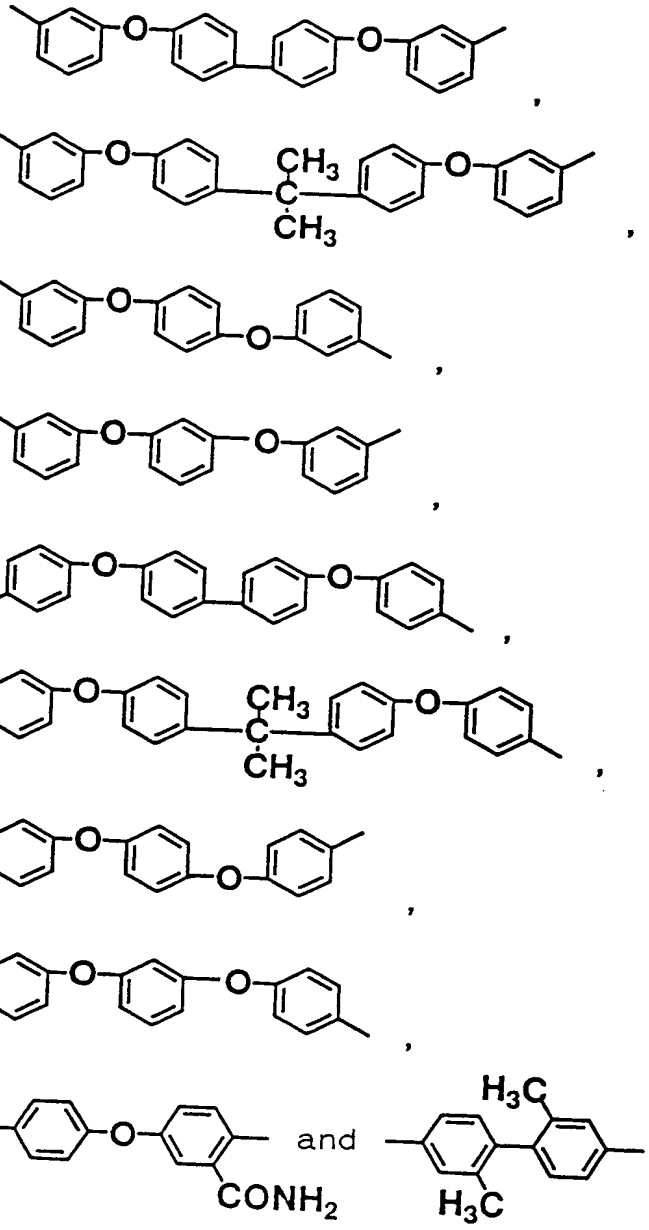


… (II)

;

R^2 is at least one of divalent aromatic organic groups shown in the following chemical formula groups (III) and (IV):

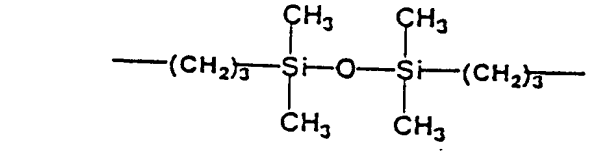

and
(III)

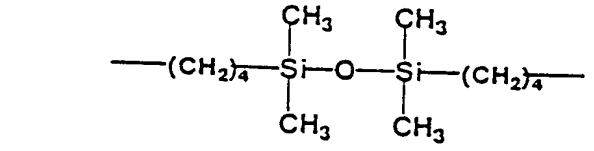


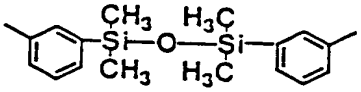
··· (IV)

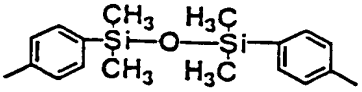
; and

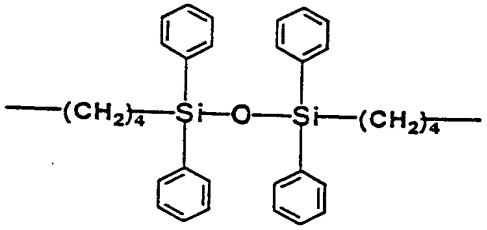
R^3 is at least one of divalent silicon-containing organic group shown in the following chemical formula group (VI):

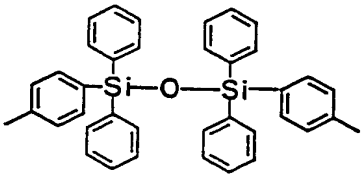












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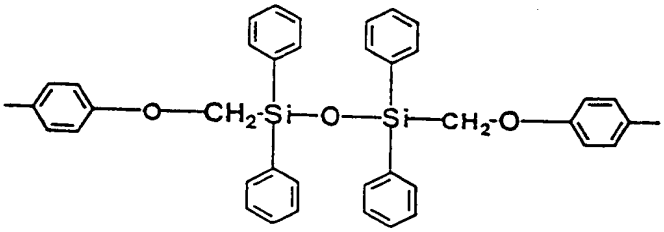

... (VI)

12. The process for fabricating a resin-encapsulated semiconductor apparatus according to claim 6, wherein the heating in the step of heat-curing is carried out using a hot plate.

13. A process for fabricating a resin-encapsulated laminated device, comprising the steps of;

forming a film of a polyimide precursor composition on the surface of a laminate having a ferroelectric film;

heat-curing the polyimide precursor composition film to form a film of a polyimide having a glass transition temperature of from 240℃ to 400℃ and a Young's modulus of from 2,600 MPa to 6 GPa; and

encapsulating, with an encapsulant resin, the laminate on which the polyimide film has been formed.